

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 23 MAY 2005

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Applicant's or agent's file reference 14437-1PCT	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US04/08473	International filing date (day/month/year) 19 March 2004 (19.03.2004)	Priority date (day/month/year) 19 March 2003 (19.03.2003)	
International Patent Classification (IPC) or national classification and IPC IPC(7): G06K 9/40 and US Cl.: 382/261			
Applicant NIK MULTIMEDIA, INC.			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:

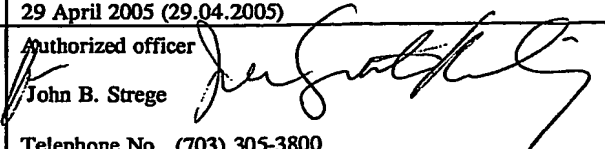
☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 15 October 2004 (15.10.2004)	Date of completion of this report 29 April 2005 (29.04.2005)
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer  John B. Strega Telephone No. (703) 305-3800

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/08473

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
pages 1-17 _____ as originally filed/furnished
pages* NONE _____ received by this Authority on _____
pages* NONE _____ received by this Authority on _____
- ☒ the claims:
pages NONE _____ as originally filed/furnished
pages* NONE _____ as amended (together with any statement) under Article 19
pages* 18-21 _____ received by this Authority on 27 April 2005 (27.04.2005)
pages* NONE _____ received by this Authority on _____
- ☒ the drawings:
pages 1/5-5/5 _____ as originally filed/furnished
pages* NONE _____ received by this Authority on _____
pages* NONE _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☒ the claims, Nos. 9 _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/08473

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>12,19-21</u>	YES
	Claims <u>1-8,10-18,22-31</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-8,10-31</u>	NO
Industrial Applicability (IA)	Claims <u>1-8,10-31</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7) Please See Continuation Sheet

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:

Claims 1-8, and 10-31 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Claims 1-8, 10-11, 13-18, and 22-31 lack novelty under PCT Article 33(2) as being anticipated by Bar et al USPN 5,506,946 (hereinafter "Bar").

Regarding claim 1, Bar discloses a method for image processing of a digital image (703 of figure 7) comprising pixels having characteristics (color, saturation, brightness as seen in figure 7), comprising applying an image processing filter as a function of the characteristics of each pixel to be processed (the color modification unit described is a filter since it uses a color mask, col. 5 lines 39-55), a first set of target image characteristics (the user can select a target color either from the image itself or from a set of reference colors, col. 14 lines 45-59), a first received adjustment parameter associated with the first set of target image characteristics (Bar discloses computing a transformation from the source color to the target color, col. 10 lines 56-58), a second set of target image characteristics, and a second received adjustment parameter associated with the second set of target image characteristics (Bar discloses that the saturation may be adjusted and discloses an adjustment slider to modify to a range of different target saturations, col. 14 lines 31-36 and numeral 727 seen in figure 7).

Regarding claim 2, the target characteristics of Bar are received by positioning the cursor over the desired target on the user screen seen in figure 7.

Regarding claim 3, the filter is a color change filter (col. 5 lines 39-55).

Regarding claim 4, Bar also discloses that the lightness of the pixels can be adjusted in the same way that the saturation is (as seen in figure 7).

Regarding claim 5, lightness is analogous to the opacity parameter.

Regarding claim 6, figure 7 is a graphic user interface that receives the target sets of image characteristics.

Regarding claim 7, the adjustment parameters of Bar comprises sliders (726, and 730).

Regarding claim 8, the characteristics comprise color (see figure 7).

Regarding claim 10, the graphic user interface comprises indicia representing target image characteristics (window 705 contains reference colors that can be selected as the target color).

Regarding claim 11, Bar discloses tools to determine the pixel characteristics of an image pixel (numeral 710 and 711 of figure 7).

Claims 13-16 have limitations that have already been addressed above, therefore the same arguments used above apply to claims 13-16.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/08473

Supplemental Box

Claims 17-18 disclose the limitations already addressed above with the additional limitations of a processor, a memory, and a computer readable medium in communication with the processor. As seen in figure 1 Bar discloses the additional limitations.

Regarding claims 22-23, Bar discloses that coordinates are received from a user pointing device and a filter is applied as a function of the received coordinates (col. 13 line 61 - col. 14 line 59).

Claims 24-29 disclose limitations that have already been addressed above.

Regarding claims 30-31, it is inherent that a set of target image characteristics comprises a single target image characteristic and multiple characteristics since comprising means including within a scope, and a set of characteristics represents a plurality of characteristics.

Claims 12 and 19-21 lack an inventive step under PCT Article 33(3) as being obvious over Bar USPN 5,506,946.

Claim 12 is dependent on claim 1 or 2 and further comprises providing camera specific default settings. At the time of the invention it would have been obvious to one of ordinary skill in the art to provide camera specific default instructions since the images that will be modified would come from a camera, thus setting the default would allow for faster processing.

Claims 19-21 have the same limitations of claim 12 thus, the same arguments are valid for obviousness.

US 5,506,946 (BAR et al) 09 April 1996, see column 2, lines 30-65, column 5, lines 39-55, column 13 line 61 - column 14 line 59, and figure 7.

CLAIMS.

1. A method for image processing of a digital image (38) comprising pixels having characteristics, comprising applying an image processing filter (17) as a function of the characteristics of each pixel to be processed, a first set of target image characteristics, a first
5 received adjustment parameter associated with the first set of target image characteristics, a second set of target image characteristics, and a second received adjustment parameter associated with the second set of target image characteristics.
2. The method of claim 1, where either the first set of target image characteristics or the second set of target image characteristics, or both, are received.
- 10 3. The method of claims 1 or 2, wherein the image processing filter is a noise reduction filter, a sharpening filter, or a color change filter.
4. The method of claims 1 or 2, further comprising receiving one or more third sets of target image characteristics, and one or more third adjustment parameters, each of the third adjustment parameters being associated with one of third set of target image characteristics, and wherein the
15 application of the image processing filter is also a function of the one or more third sets of target image characteristics, and the associated third adjustment parameters.
5. The method of claim 1 or 2, where either, or both, of the received adjustment parameters is an opacity parameter or a luminosity parameter.
6. The method of claim 1 or 2, further comprising the step of providing a graphic user interface
20 for receiving the first set of target image characteristics, the second set of target image characteristics, the first adjustment parameter, and the second adjustment parameter.
7. The method of claim 6, where the graphic user interface for receiving either of the adjustment parameters comprises a slider.
8. The method of claims 1 or 2, wherein the first set of target image characteristics, or the
25 second set of target image characteristics, comprises an image coordinate, a color, or an image structure.
9. Canceled.
10. The method of claim 6, where the graphic user interface comprises indicia representing target image characteristics.
- 30 11. The method of claim 6, where the graphic user interface comprises a tool to determine the pixel characteristics of an image pixel.
12. The method of claim 1 or 2, further comprising the step of providing camera-specific default

PCT / US 04/08473
IPEA/US
27 APR 2005

settings.

13. An application program interface embodied on a computer-readable medium (106) for execution on a computer (34) for image processing of a digital image (38), the digital image comprising pixels having characteristics, comprising:

- 5 a first interface to receive a first set of target image characteristics;
- a second interface to receive a second set of target image characteristics;
- a third interface to receive a first adjustment parameter associated with the first set of target image characteristics; and
- 10 a fourth interface to receive a second adjustment parameter associated with the second set of target image characteristics.

14. The application program interface of claim 13, further comprising a fifth interface comprising indicia representing the first set of target image characteristics, and a sixth interface comprising indicia representing the second set of target image characteristics.

15. The application program interface of claim 13, further comprising a tool to determine the pixel characteristics of an image pixel.

16. The application program interface of claim 13, where the third interface and the fourth interface each comprise a slider.

17. A system (100) for image processing of a digital image (38), the digital image comprising pixels having characteristics, comprising:

- 20 a processor (102),
- a memory (104) in communication with the processor, and
- a computer readable medium (106) in communication with the processor, the computer readable medium having contents for causing the processor to perform the steps of:
 - receiving a first set of target image characteristics;
 - 25 receiving a first adjustment parameter associated with the first set of target image characteristics;
 - receiving a second set of target image characteristics;
 - receiving a second adjustment parameter associated with the second set of target image characteristics;
 - 30 determining for each pixel to be processed, the correspondence between the characteristics of that pixel and the first set of target image characteristic and the second set of target image characteristic; and
 - processing the digital image by applying the image processing filter as a function of

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the determined correspondence, the first received adjustment parameter, and the second received adjustment parameter.

18. The system of claim 17, the computer readable medium further having contents for causing the processor to perform the steps of receiving one or more third sets of target image characteristics, and one or more third adjustment parameters, each of the third adjustment parameters being associated with one of the third sets of target image characteristics, and the processing step further comprising applying the image processing filter as a function of the one or more third sets of target image characteristics, and the one or more third adjustment parameters.

19. The system of claim 17, further comprising a set of camera-specific default instructions embodied on a computer-readable medium for execution on a computer.

20. A set of camera-specific default instructions embodied on a computer-readable medium (106) for execution on a computer (34) for image processing of a digital image (38), using the method of claim 1 or 2.

21. A set of camera-specific default instructions for setting the state of the application program interface of claim 13, embodied on a computer-readable medium (106) for execution on a computer.

22. The method of claim 1, further comprising applying the image processing filter (17) as a function of the input received from a user pointing device (36).

23. The method of claim 2, further comprising the step of receiving coordinates from a user pointing device (36), and the processing step further comprising applying the image processing filter as a function of the received coordinates.

24. The method of claims 22 or 23, wherein the image processing filter is a noise reduction filter, a sharpening filter, or a color change filter.

25. The method of claim 23, further comprising the step of providing a graphic user interface.

26. The method of claim 25, where the graphic user interface comprises indicia representing one or more target image characteristics.

27. The method of claims 22 or 23, wherein one or more target image characteristics is an image coordinate, a color, or an image structure.

28. The application program interface of claim 13, further comprising a seventh interface to receive input from a user pointing device (36).

29. The system of claim 17, further comprising a user pointing device (36), the computer readable medium further having contents for causing the processor to perform the steps of

receiving coordinates from the user pointing device and applying the image processing filter as a function of the received coordinates.

30. The method of claims 1 or 2, where the first set of target image characteristics, or the second set of target image characteristics, or both, comprises a single target image characteristic.

5 31. The method of claims 1 or 2, where the first set of target image characteristics, or the second set of target image characteristics, or both, comprises two or more target image characteristics.

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